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Library Technical Services Process Improvement Based on LEAN

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University Libraries

Library Technical Services Process Improvement
Based on LEAN

American Library Association
Annual Convention - Anaheim, CA
Saturday, June 23rd, 2012
Introduction

*Lean Thinking* ... is to see and eliminate *Muda* ‘waste’ – which is essentially any activity in which absorbs resources but creates no value.

**8 Types of Waste**

- Defects
- Overproduction
- Waiting
- Non-Utilized People
- Transportation
- Inventory
- Motion
- Extra Processing
How do we eliminate those *wastes*?
Five Principles of Lean

1. Value – specified by the customer/end user
2. Value Stream – value adding activities
3. Flow – sequence of actions
4. Pull – just in time
5. Perfection – continuous improvement
1. Value

Specified by the customer: where meaning is express for a specific good or service, while delivering highest of quality at the lowest possible cost.

2. Value Stream (VS)

Identify a set of activities required to produce a good/service from conception to delivery that creates ‘specified value’ and eliminates waste.
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Rush/Replacement & Firm Orders

Customers:

• Subject Liaisons (librarians) & library users (i.e. faculty, students, staff)

Good/Service:

• Rush/Replacement Orders (2-4 days)
• Firm Order (5-10 days)
• 100% Complete/Accurate
Value Stream – Current State

Computer Version

**Current State**

**Information Flow**

- **GOBI Orders**
  - Acquisitions
  - View received recs. for POs and status updates
  - 30min – 2hrs
- **Millennium**
  - 3min
  - 5-600 Item Edit
- **GOBI**
  - Acquisitions
  - Reference/Make Corrections
  - 30min – 2hrs
- **GOBI**
  - Review selection cart, make corrections
  - 2min (zero errors)
  - 5min (minor error)
- **GOBI**
  - process GOBI orders (check 5-8 daily)
  - 2min
- **Millennium**
  - Check due dates, Added Titles, liaison will note
  - 1min

**Liaisons**
- selection cart

**Customer(s)**
- Students, Faculty, Library Users
  - Monographs: Rush/Replacements - 2-4 days
  - Firm Orders 5-10 days
  - 100% complete/accurate

**GOBI Shipments**
- **GOBI Shipping**
  - Rush 4-5 Days ($10-$15, 2-DAY AIR)
  - Firm 1-2 Months ($ built into contract)
- Amazon Prime Member Shipping:
  - Rush 2 Days ($9, 2-DAY AIR)

**Campus Receiving**
- Receiving, sorts, and delivers packages to library
  - 10min – 24hrs

**Library Receiving**
- 1hr

**Acquisitions**
- 20min

**Millennium**
- 1min

**Acquisitions**
- 10sec

**Cataloging**
- 2min (good Copy)
- 5min (bad copy)

**Library Services**
- 2min

**Circulation**
- 2min

**Material Flow**

**Total Production Lead Time**
- 13.8 days (Rush)
  - 1.75 months (Firm)

**Total Process Time**
- 45min (zero errors)
  - 1.2hrs (minor errors)
Value Stream – Current State

Errors

GOBI
- Retrieve/Make Corrections
- Submit Orders
2 min
30 min - 48 hrs clarification errors:
- fund codes
- sub acct.

GOBI
Review selection cart make corrections
2 min (zero errors)
5 min (minor error)

GOBI
process GO-BI orders (check 3-4 x daily)
1 min

Millennium
Check Duplicates
Added Titles
(liaisons will note)

Error Rate:
20% error free
70% minor errors
10% clarification errors
Value Stream – Current State

Shipping

GOBI Shipments

GOBI Shipping:
- Rush 4-5 Days ($10-$15, 2-DAY AIR)
- Firm 1.5 Months ($ Built into contract)

Amazon Prime Member Shipping:
- Rush 2 Days ($0, 2-DAY AIR)

Campus Receiving
- Receives, sorts, and delivers packages to Library
  10 min-24 hrs

Library Receiving
- Sorts and delivers packages to Acquisitions
  5 min

Acquisitions
- Unpacks
- Verifies items with invoice
  10 min

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Value Stream – Current State

Lead Time/Processing Time

Information Flow

Production Lead Time = 2-4 days
Process Time = 13min (zero errors)
16min (minor errors)

Material Flow

Campus Receiving
- Receives, sorts, and delivers packages to library
- 10min

Library Receiving
- Sorts and delivers packages to acquisitions
- 5min

Acquisitions
- Unpacks items
- Verifies items with invoice
- 1hr

Acquisitions
- Millennium: Mark receive date
- 1min

Acquisitions
- Acquisitions 12-14 days after due date
- 3min

Acquisitions
- Cataloging
- 1sec

Acquisitions
- Table Cart
- 3min (Send Copy)

Acquisitions
- Deliver books
- 1sec

Circulation
- Adds holds
- Processes holds
- 3min (Send Copy)

Total Production Lead Time = 13.3 days (Mean)
1.75 months (Firm)

Total Process Time = 45min (zero errors)
1.2hrs (minor errors)
Value Stream – Current State

Do we create value for the customer?

Value Desired

- Customer(s)
  - Liaison Librarians/
    Branch Heads
  - Faculty
  - Library Users
    - Monographs
    - Rush/Replacements 2-4 days
    - Firm Orders 5-10 days
    - 100% complete/accurate

Value Stream: Current State – Value Creating?

- Total Production
  - Lead Time = 13.3 days (Rush)
    - 1.75 months (Firm)
- Total Process Time = 45 min (zero errors)
  - 1.2 hrs (minor errors)
Next Step:
Establishing a *Future State*
3. **FLOW**

All steps required proceed through the value stream in a continuous flow without: backflow, scrap, and/or stoppages.

**Media Process in BMS**

- Process Redesign
- Flowchart
- Travelers
"As-Is" Flowchart: Media Process in BMS

1. Receive in BMS
   - Students barcode, property stamp

2. Place on Media shelves for cataloging

3. Media cataloged

4. Students capture call number and hub labels

5. Deliver to Media or place in mail bins for delivery to branches

Checked by Serial Librarian for serials
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<th>Time worked on the Item</th>
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“New” Flowchart: Media Process in BMS

1. Receive in BMS
2. Cyrus pickup from cart in BMS; barcode as necessary, and cataloged
3. Students capture call number and hub labels
4. Deliver to Media or place in mail bins for delivery to branches
Flowchart: Comparison

"As-Is" Flowchart of Media Process in BMS

1. Receive in BMS
2. Students barcode, property stamp
3. Place on Media shelves for cataloging
4. Media cataloged
5. Students capture call number and hub labels
6. Deliver to Media or place in mail bins for delivery to branches

"New" Flowchart of Media Process in BMS

1. Receive in BMS
2. Cyrus pickup from cart in BMS; barcode as necessary, and cataloged
3. Students capture call number and hub labels
4. Deliver to Media or place in mail bins for delivery to branches
4. **PULL**

Tasks are taken by employees when they are ready for more work.

**Eliminate Scheduled Tasks**

- Prioritized list of daily tasks
- Next person does next task
- Reduce inventory/waiting
5. PERFECTION

All activities along a value stream create value.

Shelving Accuracy Tracking

• Main purpose of Stacks
• How do we add value for users?
Establish the goal.

Design method to track data.

Phase-in new procedures.
# Shelving Accuracies

The goal is 100% accuracy in shelving tasks.

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DATA FOR INITIAL AS-IS STATE

University Libraries


June 23, 2012    ALA / ALCTS – Anaheim    25-G
Assess first round of data

Why was goal not attained?

Implement new idea:

• Incorporate Shelf-reading
RESULTS AFTER FIRST REVISION
Assess second round of data

Why was goal not attained?

Implement new ideas:

- Better training
- Reduce Batch Size
“...If I find 10,000 ways something won't work, I haven't failed. I am not discouraged, because every wrong attempt discarded is often a step forward...”

Thomas A. Edison
QUESTIONS?
REFERENCES


CONTACT INFO

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